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(54) Title: AFLP-BASED METHOD FOR INTEGRATING PHYSICAL AND GENETIC MAPS

(57) Abstract: The invention pertains to a method for the integration of physical and genetic maps and markers. The method is based on the use of AFLP fingerprinting with primers of varying selectivity on a library of artificial chromosomes such as a BAC library. The fingerprinting is performed on the individual BACs and on the pools of BACs. Subsequent alignment generates a contig and provides the integration of physical and genetic markers resulting in the integration of the physical and genetic map.

ional Application No NL2004/000017

A. CLASS	SIFICATION OF SUBJECT MATTER		,, ,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
ÎPC 7	C12Q1/68			
According	to International Patent Classification (IPC) or to both national classif	ication and IPC		
B. FIELDS	SEARCHED			
IPC 7	ocumentation searched (classification system followed by classification ${\tt C12Q}$	ation symbols)	·	
	tion searched other than minimum documentation to the extent that			
EPO-In	data base consulted during the international search (name of data between all, BIOSIS, MEDLINE, EMBASE, WP			
C. DOCUM	ENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with Indication, where appropriate, of the re	elevant passages	Relevant to claim No.	
X	KLEIN PATRICIA E ET AL: "A high-throughput AFLP-based methor constructing integrated genetic physical maps: Progress toward a genome map." GENOME RESEARCH, vol. 10, no. 6, June 2000 (2000-789-807, XP002240094 ISSN: 1088-9051 cited in the application page 793, left-hand column, para page 797, left-hand column, para page 803, left-hand column, para page 806, left-hand column, para figures 2,4-7	and sorghum 06), pages graph 2 - graph 1 graph 1 -	1-3,5-14	
X Furth	er documents are listed in the continuation of box C.	Y Patent family members are listed in	аппех.	
'A' document defining the general state of the art which is not considered to be of particular relevance 'E' earlier document but published on or after the international		 "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to import an invention that the considered to import an invention that the considered to invention the constant of the constant o		
to document which may throw doubts on priority claling(s) or which is cited to establish the publication date of another clallon or other special reason (as specified) 'O' document reterring to an oral disclosure, use, exhibition or other means 'Y' document reterring to an oral disclosure, use, exhibition or other means 'Y' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is laken alone document is combined with one or more other such documents, such combination being obvious to a person skilled				
ialei in	nt published prior to the international filing date but an the priority date claimed	in the art. *&* document member of the same patent family		
	November 2004	Date of mailing of the international search report 26/11/2004		
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentiaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo ni,		Authorized officer		
Fax: (+31-70) 340-3016		Ulbrecht, M		

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C.(Continu	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	/NL2004/000017
Category °		Relevant to claim No.
A	EP 0 534 858 A (KEYGENE NV) 31 March 1993 (1993-03-31) cited in the application the whole document	1-14
A	VOS P ET AL: "AFLP: A NEW TECHNIQUE FOR DNA FINGERPRINTING" NUCLEIC ACIDS RESEARCH, OXFORD UNIVERSITY PRESS, SURREY, GB, vol. 23, no. 21, 1995, pages 4407-4414, XP000939214 ISSN: 0305-1048 cited in the application the whole document	1-14

rnational application No.

PCT/NL2004/000017

Вох	No. I	Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)
1.	With inver	regard to any nucleotide and/or amino acid sequence disclosed in the International application and necessary to the claimed tion, the international search was carried out on the basis of:
	a.	type of material X a sequence listing table(s) related to the sequence listing
	b.	format of material in written format in computer readable form
	c.	time of filing/furnishing contained in the international application as filed filed together with the international application in computer readable form furnished subsequently to this Authority for the purpose of search
2.		In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3.	Additi	Ional comments:

information on patent family members

"NL2004/000017

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Patent document cited in search report	Publication date		Patent family member(s)	Publication date
EP 0534858 A	31-03-1993	EP	0534858 A1	31-03-1993
		EΡ	0969102 A2	05-01-2000
		GR	3033895 T3	30-11-2000
		ΑT	191510 T	15-04-2000
		ΑU	672760 B2	17-10-1996
		ΑU	2662992 A	27-04-1993
		CA	2119557 A1	01-04-1993
		CZ	9400669 A3	15-12-1994
		CZ	291877 B6	18-06-2003
		DE	69230873 D1	11-05-2000
		DE	69230873 T2	09-11-2000
		DK	534858 T3	11-09-2000
		MO	9306239 A1	01-04-1993
		ES	2147550 T3	16-09-2000
		FI	941360 A	24-05-1994
		FI	20031526 A	17-10-2003
		ΗU	68504 A2	28-06-1995
		JP	6510668 T	01-12-1994
		JP	3236295 B2	10-12-2001
		JP	2001061486 A	13-03-2001
		NO	941064 A	20-05-1994
		PT	534858 T	29-09-2000
		RU	2182176 C2	10-05-2002
		us	6045994 A	04-04-2000
-		ZA	9207323 A	30-08-1993